REMARKS

I. Status of the Claims

The Office Action mailed January 28, 2010, objected to claims 1, 8, 17, 24, 31, and 32; rejected claims 1, 8, 17, 24, 31, and 32 under 35 U.S.C. § 103(a) as being unpatentable over *Nagai et al.* (U.S. Patent Publication No. 2005/0223063) in view of *Pebley et al.* (U.S. Patent No. 6,154,840); and rejected claims rejected claims 5, 6, 12, 13, 21, 22, 28, and 29 under 35 U.S.C. § 103(a) as being unpatentable over *Nagai et al.* in view of *Pebley et al.* and *Dilkie et al.* (U.S. Patent No. 6,341,164).

By this Amendment, Applicants amend claims 1, 8, 17, 24, 31, and 32. However, by amending these claims, Applicants have not acceded to any of the outstanding rejections. To the contrary, Applicants respectfully traverse the rejections contained in the Office Action. Claims 1, 5, 6, 8, 12, 13, 17, 21, 22, 24, 28, 29, 31, and 32 remain pending in the application.

II. Claim Objections

Applicants herein amend claims 1, 8, 17, 24, 31, and 32 to correct the minor informality noted by the Office Action. *Office Action*, p. 2. Specifically, Applicants amend the claims to recite "the memory unit identifier." Accordingly, Applicants request that the objection to claims 1, 8, 17, 24, 31, and 32 be withdrawn.

III. Rejections under 35 U.S.C. § 103(a)

Applicants respectfully traverse the rejections of claims 1, 5, 6, 8, 12, 13, 17, 21, 22, 24, 28, 29, 31, and 32 under 35 U.S.C. § 103(a). A *prima facie* case of obviousness has not been established.

The key to supporting any rejection under 35 U.S.C. § 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. *See*

M.P.E.P. § 2142, 8th Ed. (July 2008). Such an analysis should be made explicit and cannot be premised upon mere conclusory statements. *See id.* "A conclusion of obviousness requires that the reference(s) relied upon be enabling in that it put the public in possession of the claimed invention." M.P.E.P. § 2145. Furthermore, "[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the results would have been predictable to one of ordinary skill in the art" at the time the invention was made. M.P.E.P. § 2143.01(III), internal citation omitted. Moreover, "[i]n determining the differences between the prior art and the claims, the question under 35 U.S.C. § 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious." M.P.E.P. § 2141.02(I), internal citations omitted (emphasis in original).

"[T]he framework for the objective analysis for determining obviousness under 35 U.S.C. 103 is stated in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). . . . The factual inquiries . . . [include determining the scope and content of the prior art and] . . . [a]scertaining the differences between the claimed invention and the prior art." M.P.E.P. § 2141(II). "Office personnel must explain why the difference(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art." M.P.E.P. § 2141(III).

The claims recite novel systems and methods for performing sector level encryption of content data. At a minimum, the claimed invention overcomes the disadvantage of prior art systems that store encryption keys within each sector of a

storage memory device along with the data and thus reduce the size of the storage area within the sector in which the data can be stored. *Specification*, p. 5.

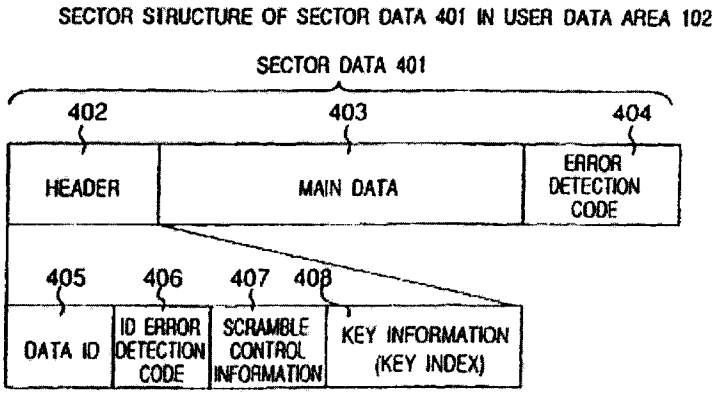
Claim 1, for example, is directed to an information recording device that stores content data in a "data storage area comprising a plurality of blocks, each of the blocks comprising M sectors from a first sector to a M-th sector with each sector having a predetermined data capacity, where M represents a natural number." The information recording device includes a processing unit that divides the "content data into separate content data portions, for storing each of the separate content data portions in a different sector within a first data block of the data storage area, and for storing a security header corresponding to the content data in a second data block of the data storage area, wherein the first data block is different from the second data block." The information recording device further includes a "cryptosystem unit for performing sector level encryption by using a different encryption key for each sector of the first data block." As additionally recited in claim 1, the "security header stored in the second data block includes each encryption key used for each sector of the first data block."

Accordingly, as set forth in claim 1, the security header, which includes the encryption key used to encrypt each sector of the first data block, is stored in a different data block than the content data. Specifically, the content data is stored in a first data block, and the security header is stored in a second data block. One nonlimiting advantage of the claimed invention of claim 1 is that the security header, which includes the encryption key, is not stored in the same sector as the data that is encrypted using the encryption key. Therefore, the claimed invention of claim 1 does not reduce the area of a sector in which data can be stored.

In rejecting claim 1, the Office Action acknowledges that *Nagai et al.* fails to teach or suggest "a processing unit for dividing content data into separate content data portions, for storing each of the separate content data portions in a different sector with a first data block of the data storage area, and for storing a security header corresponding to the content data in a second data block of the data storage area, wherein the first data block is different from the second data block" and "a cryptosystem unit for performing sector level encryption by using a different encryption key for each sector of the first data block to execute encryption processing on the content data portion to be stored in each of the sectors," as recited in claim 1. *Office Action*, pp. 3-4. At a minimum, contrary to the assertions of the Office Action and for at least the reasons discussed below, *Nagai et al.* also fails to teach or suggest "wherein the security header stored in the second data block includes each encryption key used for each sector of the first data block," as recited in claim 1.

Nagai et al. discloses an optical disk comprising a sector structure in which the sector includes a header area 402, a main data area 403, and an error correction code area 404. *Nagai et al.*, ¶ 0138 and FIG. 4. *Nagai et al.* also discloses that when data in the main data area 403 is scrambled, "information corresponding to a key for descrambling the main data 403 is recorded in the key information 408." *Id.* ¶ 0138. As illustrated in FIG. 4 of *Nagai et al.*, which is reproduced below, key information area 408 is located within header area 402.

Fig.4



Nagai et al. therefore discloses that a key for descrambling data is stored within the same sector as scrambled data. Accordingly, *Nagai et al.* does not teach or suggest "wherein the security header stored in the second data block includes each encryption key used for each sector of the first data block," as recited in claim 1.

Pebley et al. fails to cure any of the above noted deficiencies of *Nagai et al.* For example, *Pebley et al.* discloses systems and methods for transferring an encrypted document across a network. *Pebley et al.*, 2:6-9. *Pebley et al.* discloses that the document is formed of multiple data blocks and each block is encrypted with an encryption key. *Id.* at 2:6-17 and 4:54-57. *Pebley et al.* also discloses that "[e]ach data block B will preferably have a predetermined number N of data bytes, where the value of N is substantially less than the number of bytes in the entire document. Thus, for an electronic document of one thousand bytes, there will be 1000/N data blocks, each with its own encryption key . . . ." *Id.* at 3:18-29. *Pebley et al.* does not teach or suggest performing sector level encryption. Accordingly, *Pebley et al.* does not teach or suggest "a processing unit for dividing content data into separate content data portions, for storing each of the separate content data portions in a different sector with a first data

block of the data storage area, and for storing a security header corresponding to the content data in a second data block of the data storage area, wherein the first data block is different from the second data block," "a cryptosystem unit for performing sector level encryption by using a different encryption key for each sector of the first data block to execute encryption processing on the content data portion to be stored in each of the sectors," and "wherein the security header stored in the second data block includes each encryption key used for each sector of the first data block," as recited in claim 1.

Dilkie et al. also fails to teach or suggest "a processing unit for dividing content data into separate content data portions, for storing each of the separate content data portions in a different sector with a first data block of the data storage area, and for storing a security header corresponding to the content data in a second data block of the data storage area, wherein the first data block is different from the second data block," "a cryptosystem unit for performing sector level encryption by using a different encryption key for each sector of the first data block to execute encryption processing on the content data portion to be stored in each of the sectors," and "wherein the security header stored in the second data block includes each encryption key used for each sector of the first data block," as recited in claim 1. Nor does the Office Action attempt to rely on *Dilkie et al.* for any such teaching or suggestion.

Consequently, in view of at least the above deficiencies of *Nagai et al.*, *Pebley et al.*, and *Dilkie et al.*, the Office Action has neither properly determined the scope and content of the prior art nor properly ascertained the differences between the prior art and amended claim 1. Accordingly, the Office Action has not clearly articulated a reason as to why independent claim 1 would have been obvious to one of ordinary skill

in view of the prior art. Therefore, a *prima facie* case of obviousness has not been established for independent claim 1. Applicants thereby respectfully request that the rejection of claim 1 be withdrawn and the claim allowed.

Independent claims 8, 17, 24, 31, and 32, while of different scope than claim 1, distinguish over *Nagai et al.*, *Pebley et al.*, and *Dilkie et al.* for at least similar reasons as those noted for claim 1. Accordingly, Applicants also respectfully request the withdrawal of the rejection of claims 8, 17, 24, 31, and 32 under 35 U.S.C. § 103(a) and the timely allowance of the claims.

Dependant claims 5, 6, 12, 13, 21, 22, 28, and 29 depend from one of claims 1, 8, 17, and 24, and are allowable for at least the same reasons as the claim from which they depend, as well as by virtue of reciting additional features not taught nor suggested by the cited references. Accordingly, Applicants also respectfully request withdrawal of the rejection of dependent claims 5, 6, 12, 13, 21, 22, 28, and 29 under 35 U.S.C. § 103(a) and the timely allowance of the claims.

CONCLUSION

Applicants respectfully request reconsideration of this application and the timely allowance of the pending claims. The preceding remarks are based on the arguments presented in the Office Action and therefore do not address patentable aspects of the invention that were not addressed by the Office Action. The pending claims may include other elements that are not shown, taught, or suggested by the cited art. Accordingly, the preceding remarks in favor of patentability are advanced without prejudice to other bases of patentability. Furthermore, the Office Action contains a number of statements reflecting characterizations of the related art and the claims.

Regardless of whether any such statement is identified herein, Applicants decline to automatically subscribe to any statement or characterization in the Office Action.

Please grant any extensions of time required to enter this response and charge any additional required fees to Deposit Account 06-0916.

Respectfully submitted,

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